

$$f(-1) = x^2 = (-1)^2 = 1$$

$$f(-2) = (-2)^2 = 4$$

parabola

$f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ x & \text{if } x \geq 0 \end{cases}$

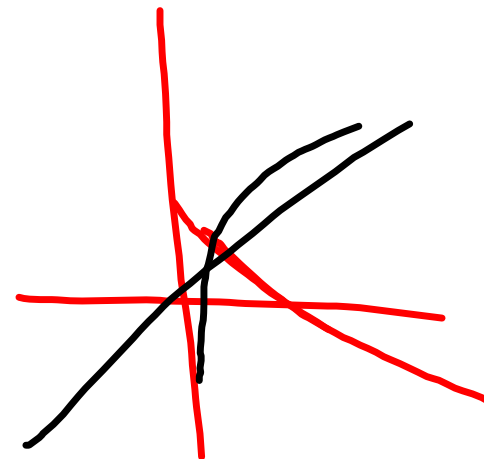
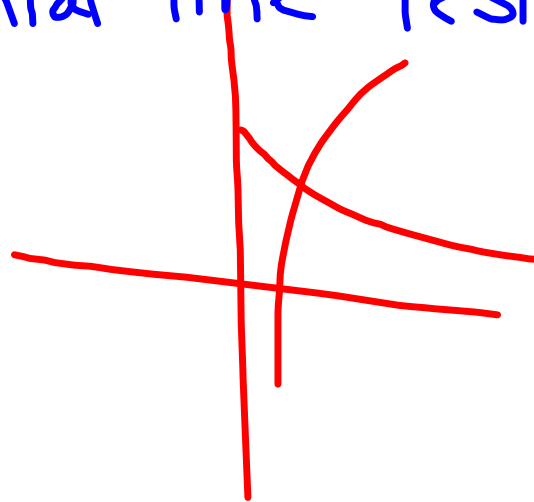
line

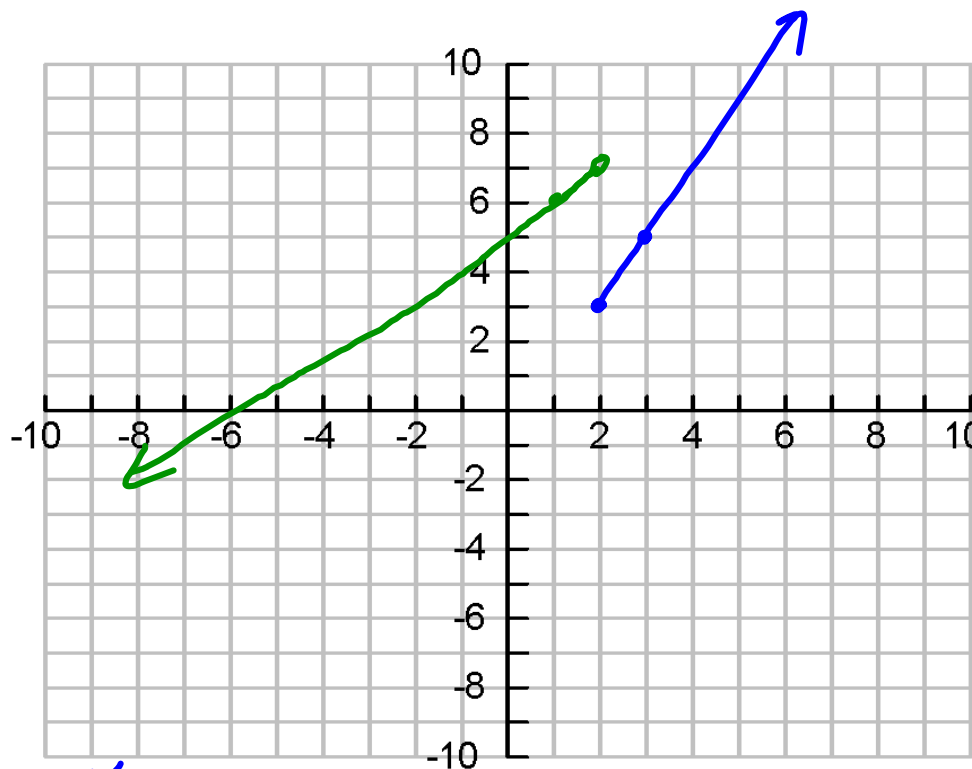
Piecewise function

$m=1$
 $b=0$

one to one function - either

always increasing or decreasing
horizontal line test





line
 $m=2$
 $b=-1$

start at two

$$f(x) = \begin{cases} 2x-1 & \text{if } x \geq 2 \\ x+5 & \text{if } x < 2 \end{cases}$$

line
 $m=1$
 $b=5$

start at 2

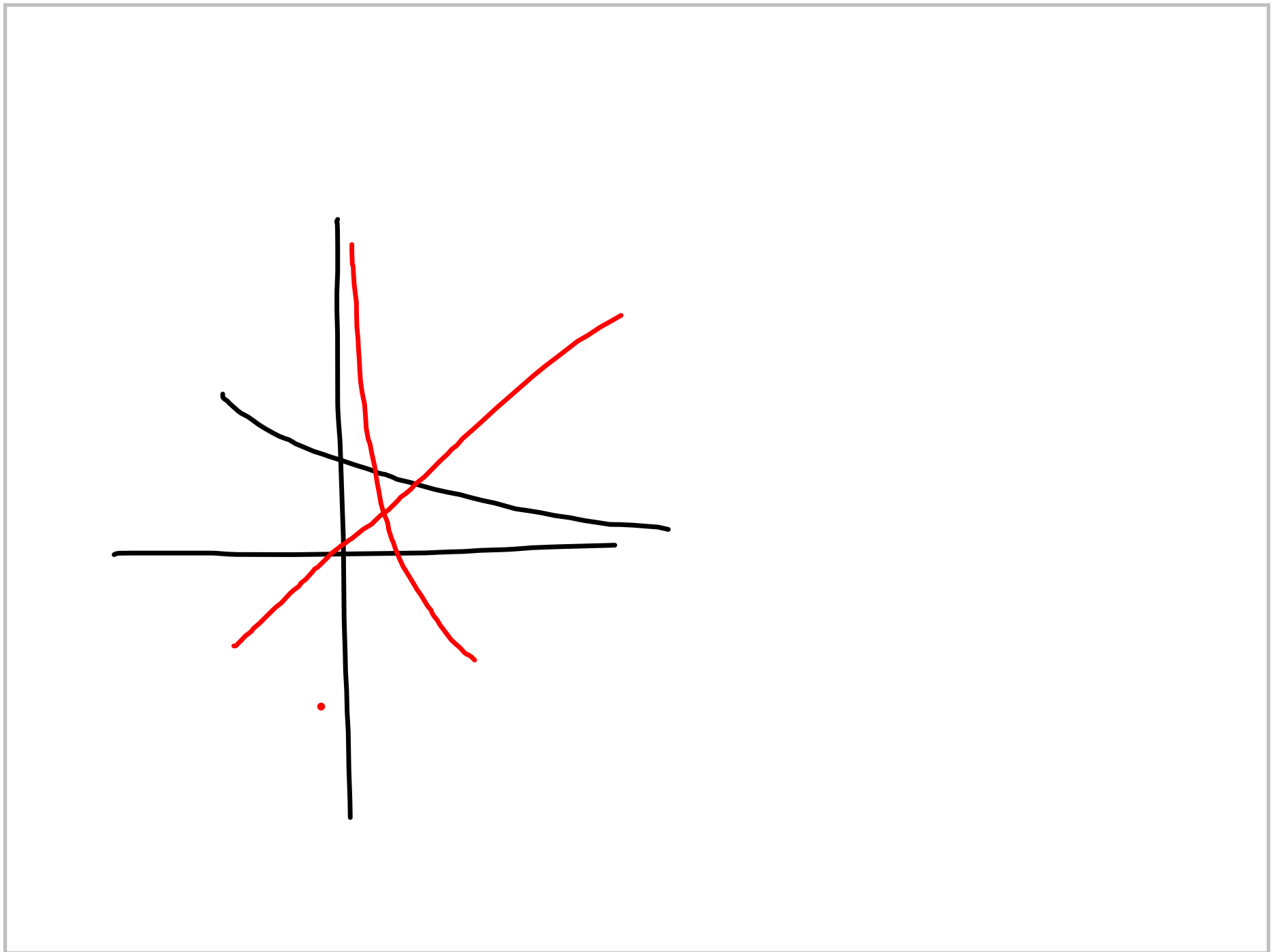
$$f(2) = 2x - 1 = 2 \cdot 2 - 1 = 3 \quad (2, 3)$$

$$f(3) = 2 \cdot 3 - 1 = 5 \quad (3, 5)$$

$$f(2) = x + 5 = 2 + 5 = 7 \quad (2, 7)$$

$$f(1) = x + 5 = 1 + 5 = 6$$

HW p. 238
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$$\{(1, 5), (2, 3), (-2, 8), (5, 0)\}$$

$$\{(2, 5), (3, 0), (-3, 5), (-2, 1)\}$$